

TYPHOON TIM (08W)

I. HIGHLIGHTS

After a week of relative calm in the western North Pacific, a tropical disturbance developed in the Caroline Islands on 05 July. The disturbance moved northwestward and was upgraded to Tropical Storm Tim. On 08 July, it underwent an episode of rapid intensification. A peak intensity of 125 kt (64 m/sec) was reached at 100600Z. Tim and Vanessa (09W) underwent a binary interaction that resulted in the decay and absorption of the smaller Vanessa into Tim's outer circulation. Tim made landfall in central Taiwan at 101200Z. Gusts to 98 kt (51 m/sec) were reported at Chengkung (WMO 46761).

II. TRACK AND INTENSITY

In early July, the Tropical Upper Tropospheric Trough (TUTT) intensified across the western North Pacific. Trade winds beneath the TUTT dominated the low-level flow over most of the region, except south of 10°N where the axis of a weak monsoon trough extended across Micronesia to about 160°E. By 05 July, convection over the Philippine Sea had increased south of the TUTT, and the disturbance that would become Typhoon Tim was first mentioned on the Significant Tropical Weather Advisory at 050600Z July as an area of enhanced convection south of Chuuk. On the early morning of 06 July, a Tropical Cyclone Formation Alert was issued, followed two hours later by the first warning on Tropical Depression 08W. As this system approached 130°E, it was upgraded to Tropical Storm Tim. After Tim crossed 130°E, the southwest monsoon surged across the Philippines and into the storm.

Tim reached an intensity of 55 kt (28 m/sec) at about 080600Z, then started to rapidly intensify. It reached typhoon intensity at 081200Z enroute to its peak intensity of 125 kt (64 m/sec) on the morning of 10 July. From 09 to 11 July, Tim underwent a binary interaction with Tropical Storm Vanessa (09W) (See Vanessa's Summary). Tim, much larger than Vanessa, showed little track deviation as a result of the interaction.

Tim weakened rapidly after it made landfall at Hualien County in central Taiwan at 101200Z where maximum winds of 79 kt (41 m/sec) with gusts to 98 kt (51 m/sec) were reported at Chengkung (WMO 46761) and 64 kt with gusts to 81 kt (33 m/sec with gusts to 42 m/sec) at Hualien City (WMO 46763). Ten hours later, Tim moved into mainland China as a minimal typhoon where it dissipated a day-and-a-half later over the inland mountains. The final warning on Tim was issued at 110600Z.

III. DISCUSSION

There are two primary areas of interest concerning Typhoon Tim. The first is its rapid intensification, and the second is Tim's binary interaction with Tropical Storm Vanessa. The latter is covered in the Tropical Storm Vanessa (09W) summary.

Tim intensified normally from 070000Z to 080000Z July. During this interval the developing eye wall was suppressed on the west side, most probably by upper-level westerly wind flow south of the TUTT axis (Figure 3-8-1a,b). Twelve hours later (081200Z), the shear had relaxed. A complete eye wall formed, and peripheral bands of deep convection developed in all quadrants and an episode of rapid intensification began. From 081200Z until 091200Z, Tim intensified at a rate of 49 mb/day or 2.04 mb/hr. This meets the requirement for rapid intensification — 42 mb/day or 1.75 mb/hr — as designated by Holliday and Thompson (1979). After 091200Z, Tim's rate of intensification slowed, and it reached its peak intensity of 125 kt (64 m/sec) at 100600Z (Figure 3-08-2).

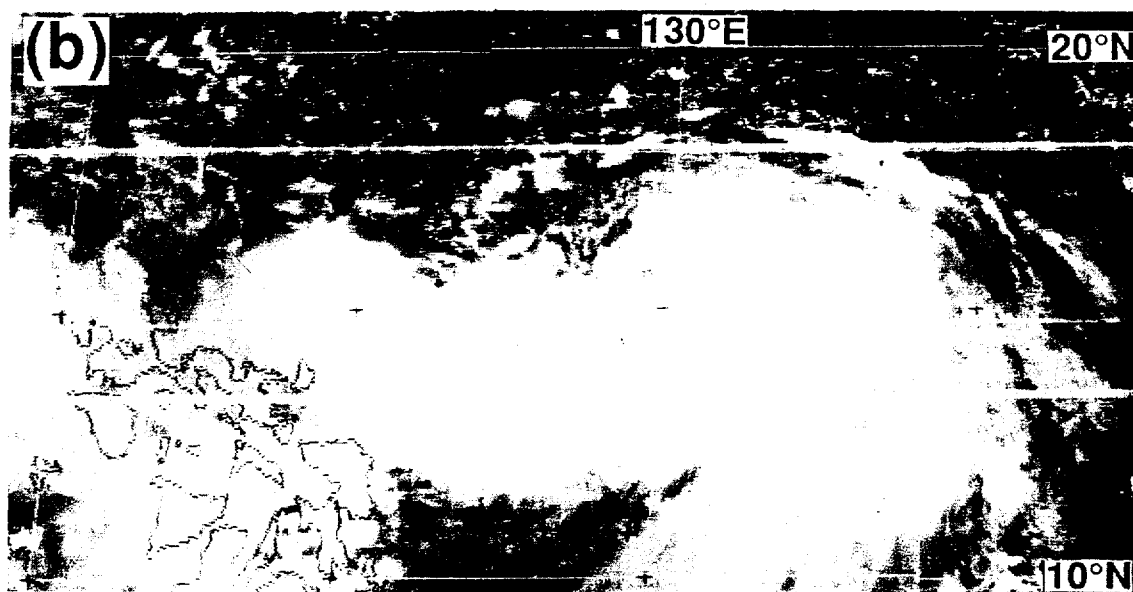
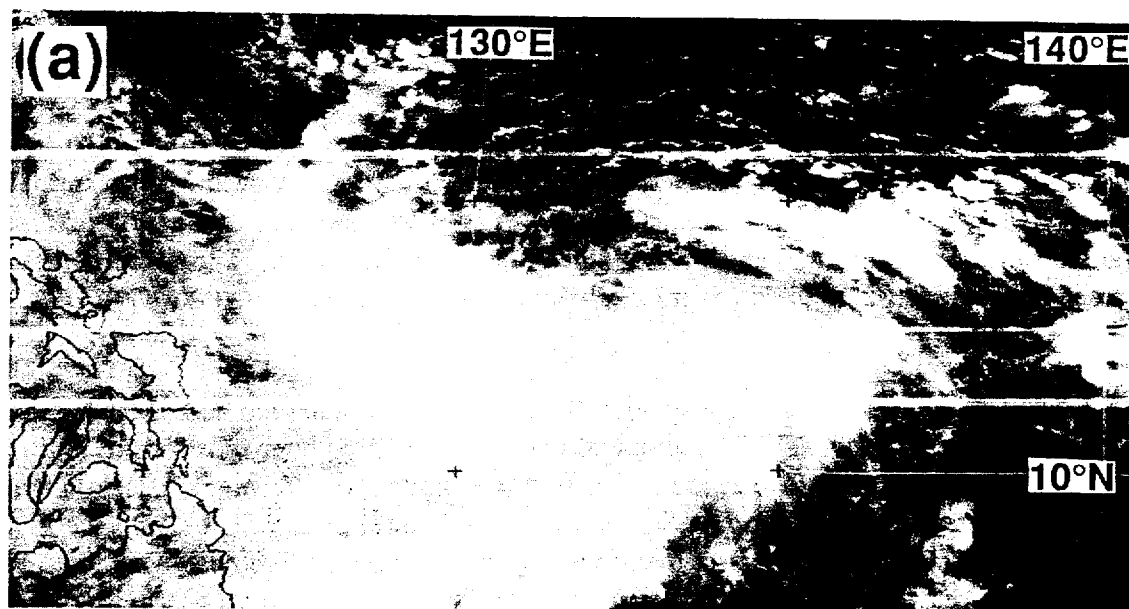


Figure 3-08-1 Tim intensifies despite apparent shearing from the west: (a) 070031Z July visible GMS imagery; (b) 080031Z July visible GMS imagery.

IV. IMPACT

In Taiwan, 39 fishermen were missing as a result of Tim when their fishing trawler ran aground near the eastern coastal city of Ilan. Elsewhere in Taiwan, four people were killed, and several highways were closed as a result of landslides from torrential rains.



Figure 3-08-2 Tim at 120 kt (62 m/sec) six hours prior to reaching its peak intensity of 125 kt (64 m/sec) (100031Z July visible GMS imagery).